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Substitute for form 1449A/PTO  <b>INFORMATION DISCLOSURE STATEMENT BY APPLICANT</b>  <i>(use as many sheets as necessary)</i>		<b>Complete if Known</b>	
		Application Number	Not Yet Assigned
		Filing Date	Herewith
		First Named Inventor	NAIR et al.
		Group Art Unit	
		Examiner Name	
Sheet	1	of	1
		Attorney Docket Number	895,675-007

OTHER PRIOR ART – NON PATENT LITERATURE DOCUMENTS			
Examiner Initials *	Cite No. <sup>1</sup>	Include name of the author (in CAPITAL LETTERS), title of the article (when appropriate), title of the item (book, magazine, journal, serial, symposium, catalog, etc.), date, page(s), volume–issue number(s), publisher, city and/or country where published.	T <sup>2</sup>
↓	BD	NAIR, A., KUBAN, B., OBUCHOWSKI, N., and VINCE, D., "Assessing Spectral Algorithms to Predict Atherosclerotic Plaque Composition With Normalized and Raw Intravascular Ultrasound Data", <i>Ultrasound in Medicine and Biology</i> , 2001, pp. 1319-1331, Vol. 27, No. 10, Elsevier, U.S.A.	
	BE	NAIR, A., KUBAN, B., TUZCU, E., SCHOENHAGEN, P., NISSEN, S., and VINCE, D., "Coronary Plaque Classification With Intravascular Ultrasound Radiofrequency Data Analysis", <i>Circulation</i> , 2002, pp. 2200-2208; 106, American Heart Association, U.S.A.	
↓	BF	KLINGENSMITH, J. and VINCE, D., "B-Spline Methods for Interactive Segmentation and Modeling of Lumen and Vessel Surfaces in Three-Dimensional Intravascular Ultrasound," <i>Computerized Medical Imaging and Graphics</i> 26, 2002, pp. 429-438, Elsevier Science Ltd., U.S.A.	
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	BJ		
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Examiner Signature		Date Considered	10/26/05
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<sup>1</sup> Unique citation designation number. <sup>2</sup> Applicant is to place a check mark here if English language Translation is attached.

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## INFORMATION DISCLOSURE STATEMENT BY APPLICANT

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Sheet 1 of 1

### Complete if Known

Application Number	Not yet assigned
Filing Date	Herewith
First Named Inventor	NAIR et al.
Group Art Unit	
Examiner Name	
Attorney Docket Number	895,675-007

### U.S. PATENT DOCUMENTS

Examiner Initials*	Cite No. <sup>1</sup>	U.S. Patent Document		Name of Patentee or Applicant of Cited Document	Date of Publication of Cited Document MM-DD-YYYY	Pages, Columns, Lines, Where Relevant Passages or Relevant Figures Appear
		Number	Kind Code <sup>2</sup> (if known)			
	AA	6,381,350		Klingensmith et al.	04/30/2002	
	AB	6,200,268		Vince et al.	03/13/2001	
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### FOREIGN PATENT DOCUMENTS

Examiner Initials*	Cite No. <sup>1</sup>	Foreign Patent Document			Name of Patentee or Applicant of Cited Document	Date of Publication of Cited Document MM-DD-YYYY	Pages, Columns, Lines, Where Relevant Passages or Relevant Figures Appear	T <sub>6</sub>
		Office <sup>3</sup>	Number <sup>4</sup>	Kind Code <sup>5</sup> (if known)				
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	AY							
	AZ							
	BA							
	BB							
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Examiner Signature		Date Considered	10/28/05
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<sup>1</sup> Unique citation designation number. <sup>2</sup> See attached Kinds of U.S. Patent Documents. <sup>3</sup> Enter Office that issued the document, by the two-letter code (WIPO Standard ST.3). <sup>4</sup> For Japanese patent documents, the indication of the year of the reign of the Emperor must precede the serial number of the patent document. <sup>5</sup> Kind of document by the appropriate symbols as indicated on the document under WIPO Standard ST. 16 if possible. <sup>6</sup> Applicant is to place a check mark here if English language Translation is attached.

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Sheet	1	of	1
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**Complete if Known**

Application Number	10/647,971
Filing Date	August 25, 2003
First Named Inventor	NAIR
Art Unit	Not yet assigned
Examiner Name	Not yet assigned
Attorney Docket Number	895 675-007

## U. S. PATENT DOCUMENTS

## FOREIGN PATENT DOCUMENTS

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Signature**

Date Considered

10/28/05

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# **INFORMATION DISCLOSURE STATEMENT BY APPLICANT**

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Sheet **1** of **3**

## **Complete If Known**

Application Number	10/647,971
Filing Date	August 25, 2003
First Named Inventor	NAIR et al
Group Art Unit	3737
Examiner Name	Francis Jaworski
Attorney Docket Number	895,675-007

Examiner Initials *	U.S. Patent Document		Name of Patentee or Applicant of Cited Document	Date of Publication of Cited Document MM-DD-YYYY
	Number	Kind Code <sup>2</sup> (if known)		
<i>[Signature]</i>	5,638,823		Akay	06/17/1997
	6,659,953		Sumanaweera	12/09/2003
	2005/0124881		Kanai	06/09/2005

Examiner Initials *	Foreign Patent Document			Name of Patentee or Applicant of Cited Document	Date of Publication of Cited Document MM-DD-YYYY	T <sub>6</sub>
	Office <sup>3</sup>	Number <sup>4</sup>	Kind Code <sup>5</sup> (if known)			
<i>[Signature]</i>	JP	2002-074957		Kanai	03/15/2002	

Examiner Initials *	Include name of the author (in CAPITAL LETTERS), title of the article (when appropriate), title of the item (book, magazine, journal, serial, symposium, catalog, etc.), date, page(s), volume-issue number(s), publisher, city and/or country where published.	T <sup>2</sup>
<i>[Signature]</i>	AYDIN, N., PADAYACHEE, S., MARKUS, H., "The Use of the Wavelet Transform to Describe Embolic Signals", Ultrasound in Medicine and Biology, 1999, pp. 953-958, Vol. 25, No. 6, Elsevier, New York, U.S.A.	
	BALDEWECK, T., LAUGIER, P., HERMENT, A., BERGER, G., "Application of Autoregressive Spectral Analysis for Ultrasound Attenuation Estimation: Interest in Highly Attenuating Medium", IEEE Transactions on Ultrasonics, Ferroelectrics, and Frequency Control, 1995, pp. 99-110, Vol. 42, No. 1, Institute of Electrical and Electronics Engineers, New York, U.S.A.	
	BOOKSTEIN, F., "Principal Warps: Thin-Plate Splines and the Decomposition of Deformations", IEEE Transactions on Pattern Analysis and Machine Intelligence, 1989, pp. 567-585, Vol. 11, No. 6, IEEE Computer Society, New York, U.S.A.	
	BOOKSTEIN, F., <i>Morphometric Tools for Landmark Data: Geometry and Biology</i> , 1991, pp. 55-87, Cambridge University Press, Cambridge, England	
	BRIDAL, S., FORNES, P., BRUNEVAL, P., BERGER, G., "Correlation of Ultrasonic Attenuation (30 to 50 MHz) and Constituents of Atherosclerotic Plaque", Ultrasound in Medicine and Biology, 1997, pp. 691-703, Vol. 23, No. 5, Elsevier, New York, U.S.A.	
	BRIDAL, S., BEYSSSEN, B., FORNES, P., JULIA, P., BERGER, G., "Development of Noninvasive Parametric Imaging of Atherosclerotic Plaque", IEEE Ultrasonics Symposium, 1998, pp. 1595-1598, Institute of Electrical and Electronics Engineers, Piscataway, U.S.A.	
	BRIDAL, S., TOUSSAINT, J., RAYNAUD, J., FORNES, P., LEROY-WILLIG, A., BERGER, G., "US Backscatter and Attenuation 30 to 50 MHz and MR T2 at 3 Tesla for Differentiation of Atherosclerotic Artery Constituents In Vitro", IEEE Transactions on Ultrasonics, Ferroelectrics, and Frequency Control, 1998, pp. 1517-1525, Vol. 45, No. 6, Institute of Electrical and Electronics Engineers, New York, U.S.A.	
	CHERIN, E., SAIED, A., LAUGIER, P., NETTER, P., BERGER, G., "Evaluation of Acoustical Parameter Sensitivity to Age-Related and Osteoarthritic Changes in Articular Cartilage Using 50-MHz Ultrasound", Ultrasound in Medicine and Biology, 1998, pp. 341-354, Vol. 24, No. 3, Elsevier, New York, U.S.A.	
	CINCOTTI, G., LOI, G., PAPPALARDO, M., "Frequency Decomposition and Compounding of Ultrasound Medical Images with Wavelet Packets", IEEE Transactions on Medical Imaging, 2001, pp. 764-771, Vol. 20, No. 8, Institute of Electrical and Electronics Engineers, New York, U.S.A.	
	DAUBECHIES, I., "Wavelet Transforms and Orthonormal Wavelet Bases", Proceedings of Symposia in Applied Mathematics, 1993, pp. 1-33, Vol. 47, American Mathematic Society, Providence, U.S.A.	
	DE KROON, M., VAN DER WAL, L., GUSSENHOVEN, W., RUSTERBORGH, H., BOM, N., "Backscatter Directivity and Integrated Backscatter Power of Arterial Tissue", International Journal of Cardiac Imaging, 1991, pp. 265-275, Vol. 6, No. 3-4, Nijhoff, Boston, U.S.A.	
	GEORGIU, G., COHEN, F., "Tissue Characterization Using the Continuous Wavelet Transform Part I: Decomposition Method", IEEE Transactions on Ultrasonics, Ferroelectrics, and Frequency Control, 2001, pp. 355-363, Vol. 48, No. 2, Institute of Electrical and Electronics Engineers, New York, U.S.A.	
<i>[Signature]</i>	GEORGIU, G., COHEN, F., PICCOLI, C., FORSBERG, F., GOLDBERG, B., "Tissue Characterization Using the Continuous Wavelet Transform Part II: Application on Breast RF Data", IEEE Transactions on Ultrasonics, Ferroelectrics, and Frequency Control, 2001, pp. 364-373, Vol. 48, No. 2, Institute of Electrical and Electronics Engineers, New York, U.S.A.	

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<b>INFORMATION DISCLOSURE STATEMENT BY APPLICANT</b>		Application Number	10/847,971
		Filing Date	August 25, 2003
		First Named Inventor	NAIR et al
		Group Art Unit	3737
		Examiner Name	Francis Jaworski
(use as many sheets as necessary)		Attorney Docket Number	895,675-007
Sheet	2	of	3

Examiner Initials *	Include name of the author (in CAPITAL LETTERS), title of the article (when appropriate), title of the item (book, magazine, journal, serial, symposium, catalog, etc.), date, page(s), volume-issue number(s), publisher, city and/or country where published.	T <sup>2</sup>
	GUSSENHOVEN, E., ESSED, C., LANCEE, C., MASTIK, F., FRIETMAN, P., VAN EGMOND, F., REIBER, J., BOSCH, H., VAN URK, H., ROELANDT, J., BOM, N., "Arterial Wall Characteristics Determined by Intravascular Ultrasound Imaging: An In Vitro Study", Journal of the American College of Cardiology, 1989, pp. 947-952, Vol. 14, No. 4, Elsevier Biomedical, New York, U.S.A.	
	GUSSENHOVEN, E., FRIETMAN, P. THE, S., VAN SUYLEN, R., VAN EGMOND, F., LANCEE, C., VAN URK, H., ROELANDT, J., STUNEN, T., BOM, N., "Assessment of Medial Thinning in Atherosclerosis by Intravascular Ultrasound", The American Journal of Cardiology, 1991, pp. 1625-1632, Vol. 68, No. 17, Cahners Publishing Company, Newton, U.S.A.	
	JEREMIAS, A., KOLZ, M., IKONEN, T., GUMMERT, J., OSHIMA, A., HAYASE, M., HONDA, Y., KOMIYAMA, N., BERRY, G., MORRIS, R., YOCK, P., FITZGERALD, P., "Feasibility of In Vivo Intravascular Ultrasound Tissue Characterization in the Detection of Early Vascular Transplant Rejection", Circulation, 1999, pp. 2127-2130, Vol. 100, No. 21, American Heart Association, Dallas, U.S.A.	
	KAWASAKI, M., TAKATSU, H., NODA, T., ITO, Y., KUNISHIMA, A., ARAI, M., NISHIGAKI, K., TAKEMURA, G., MORITA, N., MINATOUGHCHI, S., FUJIWARA, H., "Noninvasive Quantitative Tissue Characterization and Two-Dimensional Color-Coded Map of Human Atherosclerotic Lesions Using Ultrasound Integrated Backscatter-Comparison Between Histology and Integrated Backscatter Images", Journal of the American College of Cardiology, 2001, pp. 486-492, Vol. 38, No. 2, Elsevier, New York, U.S.A.	
	KAWASAKI, M., TAKATSU, H., NODA, T., SANO, K., ITO, Y., HAYAKAWA, K., TSUCHIYA, K., ARAI, M., NISHIGAKI, K., TAKEMURA, G., MINATOUGHCHI, S., FUJIWARA, T., FUJIWARA, H., "In Vivo Quantitative Tissue Characterization of Human Coronary Arterial Plaques by Use of Integrated Backscatter Intravascular Ultrasound and Comparison with Angioscopic Findings", Circulation, 2002, pp. 2487-2492, Vol. 105, No. 21, American Heart Association, Dallas, U.S.A.	
	LIZZI, F., GREENEBAUM, M., FELEPPA, E., ELBAUM, M., COLEMAN, D., "Theoretical Framework for Spectrum Analysis in Ultrasonic Tissue Characterization", Journal of the Acoustical Society of America, 1983, pp. 1366-1373, Vol. 74, No. 4, American Institute of Physics for the Acoustical Society of America, New York, U.S.A.	
	LIZZI, F., ASTOR, M., FELEPPA, E., SHAO, M., KALISZ, A., "Statistical Framework for Ultrasonic Spectral Parameter Imaging", Ultrasound in Medicine and Biology, 1997, pp. 1371-1382, Vol. 23, No. 9, Elsevier, New York, U.S.A.	
	LOCKWOOD, G., RYAN, L., HUNT, J., FOSTER, F., "Measurement of the Ultrasonic Properties of Vascular Tissues and Blood from 35-65 MHz", Ultrasound in Medicine and Biology, 1991, pp. 653-666, Vol. 17, No. 7, Elsevier, New York, U.S.A.	
	MARPLE, S., <u>Digital Spectral Analysis with Applications</u> , 1987, pp. 136-144, 154-158, 198-202, 457-458, Prentice-Hall, Inc., Englewood Cliffs, U.S.A.	
	MOORE, M., SPENCER, T., SALTER, D., KEARNEY, P., SHAW, T., STARKEY, I., FITZGERALD, P., ERBEL, R., LANGE, A., MCDICKEN, N., SUTHERLAND, G., FOX, K., "Characterisation of Coronary Atherosclerotic Morphology by Spectral Analysis of Radiofrequency Signal: In Vitro Intravascular Ultrasound Study with Histological and Radiological Validation", Heart, 1998, pp. 459-467, Vol. 79, No. 5, BMJ Publishing Group, London, England	
	NAIR, A., Comparison of the Ability of Spectral Algorithms to Predict Atherosclerotic Plaque Composition with Radio Frequency Intravascular Ultrasound Data", Masters Thesis, cataloged on Case Western Reserve University library system April 9, 2001, pp. 1-127, Case Western Reserve University, Cleveland, U.S.A.	
	QIAN, S., CHEN, D., "Joint Time-Frequency Analysis", IEEE Signal Processing Magazine, 1999, pp. 52-67, Vol. 16, Institute of Electrical and Electronics Engineers, New York, U.S.A.	
	RASHEED, Q., NAIR, R., SHEEHAN, H., HODGSON, J., "Correlation of Intracoronary Ultrasound Plaque Characteristics in Atherosclerotic Coronary Artery Disease Patients with Clinical Variables", The American Journal of Cardiology, 1994, pp. 753-758, Vol. 73, No. 11, Cahners Publishing Company, Newton, U.S.A.	
	ROHR, K., STIEHL, H., SPRENGEL, R., BUZUG, T., WEESE, J., KUHN, M., "Landmark-Based Elastic Registration Using Approximating Thin-Plate Splines", IEEE Transactions on Medical Imaging, 2001, pp. 526-534, Vol. 20, No. 6, Institute of Electrical and Electronics Engineers, New York, U.S.A.	
	SANTOSH, K., TOBOCMAN, W., HAACKE, E., IZEN, S., "In Vivo Biomicroscopy with Ultrasound", Ultrasonics, 1987, pp. 274-282, Vol. 25, No. 5, Butterworth & Co., Guildford, England	
✓	SANTOSH, K., TOBOCMAN, W., HAACKE, E., BOADA, F., "In Vivo Biomicroscopy with Ultrasound 2", Ultrasonics, 1990, pp. 40-49, Vol. 28, No. 1, Butterworth & Co., Guildford, England	

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/	SPENCER, T., RAMO, M., SALTER, D., SUTHERLAND, G., FOX, K., MCDICKEN, W., "Characterisation of Atherosclerotic Plaque by Spectral Analysis of 30 MHz Intravascular Ultrasound Radio Frequency Data", IEEE Ultrasonics Symposium Proceedings, 1996, pp. 1073-1076, Vol. 2, Institute of Electrical and Electronics Engineers, New York, U.S.A.	
/	SPENCER, T., RAMO, M., SALTER, D., ANDERSON, T., KEARNEY, P., SUTHERLAND, G., FOX, K., MCDICKEN, W., "Characterisation of Atherosclerotic Plaque by Spectral Analysis of Intravascular Ultrasound: An In Vitro Methodology", Ultrasound in Medicine and Biology, 1997, pp. 191-203, Vol. 23, No. 2, Elsevier, New York, U.S.A.	
/	TAKIUCHI, S., RAKUGI, H., HONDA, K., MASUYAMA, T., HIRATA, N., ITO, H., SUGIMOTO, K., YANAGITANI, Y., MORIGUCHI, K., OKAMURA, A., HIGAKI, J., OGIHARA, T., "Quantitative Ultrasonic Tissue Characterization Can Identify High-Risk Atherosclerotic Alteration in Human Carotid Arteries", Circulation, 2000, pp. 766-770, Vol. 102, No. 7, American Heart Association, Dallas, U.S.A.	
/	TOBOCMAN, W., SANTOSH, K., CARTER, J., HAACKE, E., "Tissue Characterization of Arteries with 4 MHz Ultrasound", Ultrasonics, 1995, pp. 331-339, Vol. 33, No. 4, Elsevier, New York, U.S.A.	
/	TORRENCE, C., COMPO, G., "A Practical Guide to Wavelet Analysis", Bulletin of the American Meteorological Society, 1998, pp. 61-78, Vol. 79, No. 1, American Meteorological Society, Boston, U.S.A.	
/	TOUSSAINT, J., BRIDAL, S., RAYNAUD, J., FORNES, P., LEBON, V., LEROY-WILLIG, A., BERGER, G., "Magnetic Resonance and Ultrasound Imaging Parameters of Human Aortic and Iliac Atherosclerotic Arteries", 11 <sup>th</sup> International Symposium on Atherosclerosis, 1997, p. 271, Elsevier, New York, U.S.A.	
/	VINCE, D., DIXON, K., COTHREN, R., CORNHILL, J., "Comparison of Texture Analysis Methods for the Characterization of Coronary Plaques in Intravascular Ultrasound Images", Computerized Medical Imaging and Graphics, 2000, pp. 221-229, Vol. 24, No. 4, Pergamon Press, New York, U.S.A.	
/	WATSON, R., MCLEAN, C., MOORE, M., SPENCER, T., SALTER, D., ANDERSON, T., FOX, K., MCDICKEN, W., "Classification of Arterial Plaque by Spectral Analysis of In Vitro Radio Frequency Intravascular Ultrasound Data", Ultrasound in Medicine and Biology, 2000, pp. 73-80, Vol. 26, No. 1, Elsevier, New York, U.S.A.	
/	WEAR, K., WAGNER, R., GARRA, B., "High Resolution Ultrasonic Backscatter Coefficient Estimation Based on Autoregressive Spectral Estimation Using Burg's Algorithm", IEEE Transactions on Medical Imaging, 1994, pp. 500-507, Vol. 13, No. 3, Institute of Electrical and Electronics Engineers, New York, U.S.A.	
/	WEAR, K., WAGNER, R., GARRA, B., "A Comparison of Autoregressive Spectral Estimation Algorithms and Order Determination Methods in Ultrasonic Tissue Characterization", IEEE Transactions on Ultrasonics, Ferroelectrics, and Frequency Control, 1995, pp. 709-716, Vol. 42, No. 4, Institute of Electrical and Electronics Engineers, New York, U.S.A.	
/	WEISS, L., SIBUL, L., "Weighted Time-Frequency and Time-Scale Transforms for Non-Stationary Signal Detection", Proceedings of SPIE - The International Society for Optical Engineering, 1997, pp. 368-377, Vol. 3169, Society of Photo-Optical Instrumentation Engineers, Bellingham, U.S.A.	
/	WILSON, L., NEALE, M., TALHAMI, H., APPLEBERG, M., "Preliminary Results from Attenuation-Slope Mapping of Plaque Using Intravascular Ultrasound", Ultrasound in Medicine and Biology, 1994, pp. 529-542, Vol. 20, No. 6, Elsevier, New York, U.S.A.	
/	YOSHIDA, K., YOSHIKAWA, J., AKASAKA, T., HOZUMI, T., YAMAURA, Y., SHAKUDO, M., TAKAGI, T., MAEDA, K., OKUMACHI, F., SHIRATORI, K., KOIZUMI, K., MINAGOE, S., "Intravascular Ultrasound Imaging - In Vitro and In Vivo Validation", Japanese Circulation Journal, 1992, pp. 572-577, Vol. 56, No. 6, Japanese Circulation Society, Kyoto, Japan	
/	ZHANG, X., DEJONG, S., MCKAY, C., COLLINS, S., SONKA, M., "Automated Characterization of Plaque Composition from Intravascular Ultrasound Images", Computers in Cardiology, 1996, pp. 649-652, Vol. 23, IEEE Computer Society, Long Beach, U.S.A.	
/	ZHANG, X., MCKAY, C., SONKA, M., "Tissue Characterization in Intravascular Ultrasound Images", IEEE Transactions on Medical Imaging, 1998, pp. 889-899, Vol. 17, No. 6, Institute of Electrical and Electronics Engineers, New York, U.S.A.	

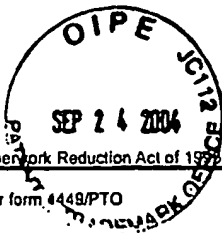
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**Complete if Known**

Application Number	10/647,971
Filing Date	08/25/2003
First Named Inventor	Nair
Art Unit	3736
Examiner Name	Not yet assigned
Attorney Docket Number	895,675-007

Sheet 2 of 2

**U. S. PATENT DOCUMENTS**

Examiner Initials*	Cite No. <sup>1</sup>	Document Number	Publication Date MM-DD-YYYY	Name of Patentee or Applicant of Cited Document	Pages, Columns, Lines, Where Relevant Passages or Relevant Figures Appear
		Number-Kind Code <sup>2</sup> (if known)			
10/1	A20	US- 6,238,342	05/29/2001	Feleppa	
	A21	US- 6,254,541	07/03/2001	Teo	
	A22	US- 6,287,259	09/11/2001	Grunwald	
	A23	US- 6,306,089	10/23/2001	Coleman	
	A24	US- 6,335,980	01/01/2002	Armato	
	A25	US- 6,454,715	09/24/2002	Teo	
	A26	US- 6,514,202	02/04/2003	Grunwald	
	A27	US- 6,544,187	04/08/2003	Seward	
	A28	US- 2001/0014774	08/16/2001	Grunwald	
	A29	US- 2003/0028118	02/03/2003	Dupree	
	A30	US- 2003/0092993	05/15/2003	Grunwald	
		US-			
		US-			
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**FOREIGN PATENT DOCUMENTS**

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		Country Code <sup>3</sup> Number <sup>4</sup> Kind Code <sup>5</sup> (if known)				

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